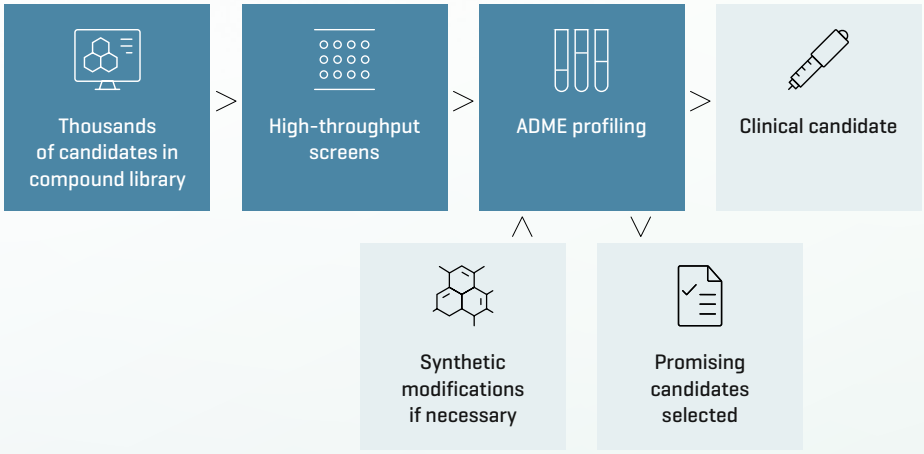
Take high-quality mass spectrometry to a new level:
accelerating drug discovery

On average, it takes 10-15 years and 1-2 billion dollars to approve a new pharmaceutical for clinical use.[1] Since approximately **90% of new drug candidates fail** in clinical development, the **ability to make early, informed and accurate decisions** on the safety and efficacy of new hits and leads is key to increasing the chances of success.[2] **This infographic explores the benefits of Acoustic Ejection Mass Spectrometry (AEMS)-based workflows for efficient small and large molecule screening.**



Why is high-throughput screening needed?

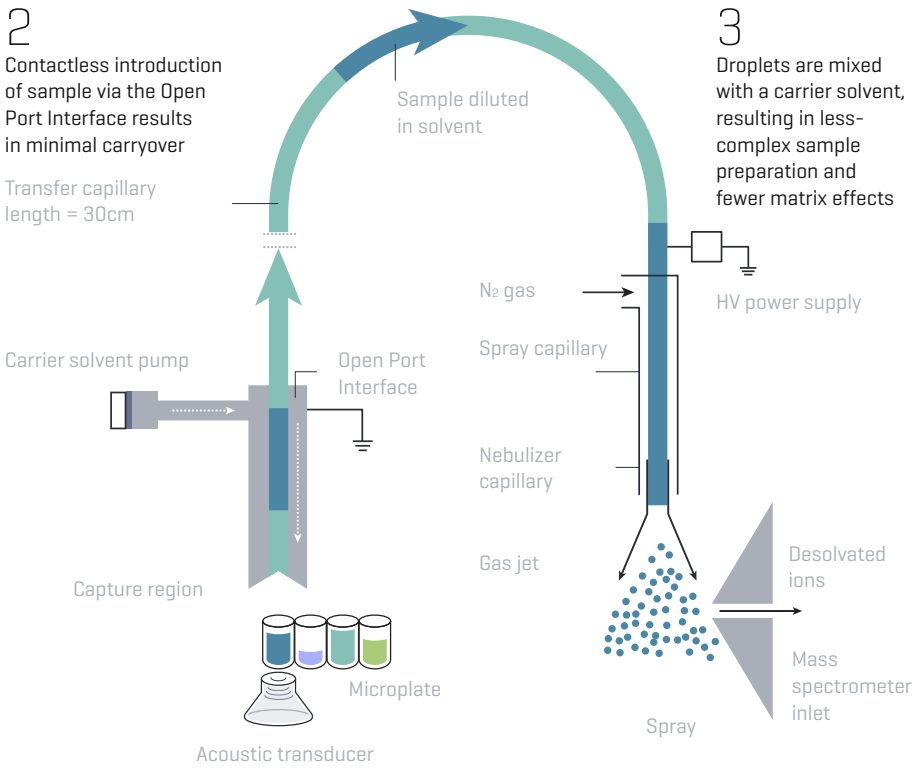
Drug discovery demands high-quality data, system reliability and speed at the lowest possible cost. By driving key decisions earlier in the process, these attributes increase the likelihood of developing successful clinical candidates.



Addressing the challenges of traditional methods

Key decisions about drug candidates depend on the quality of the analytical data. Fluorescence-based assays have been the gold standard for hit identification but can be prone to false positives. This has driven the need for an alternative, label-free technique that combines speed and sensitivity, is simple to implement and has enhanced data reliability.

The Echo® MS+ systems produce results with the precision and accuracy required for drug discovery.



Optimizing high-throughput mass spectrometry screening

	Traditional LC-MS	Echo® MS+ systems
Sample preparation	Preparation protocol varies depending on the sample type	Preparation protocol varies depending on the sample type
Instrument setup	Prepare system and optimize MS parameters	Prepare system and optimize MS parameters
Sample separation	Samples run through high-performance liquid chromatography column	
MS analysis	MS analysis at approximately 90 seconds per sample	Typical sampling rate up to 3 seconds per sample
Data processing results	Manually review and process data	Data processed and results file is automatically created for LIMS integration by SCIEX OS software
	Multi-day process, high levels of user interaction	**Highly automated, single-day turnaround**

Streamlining drug discovery with innovative mass spectrometry solutions

Available in three configurations to best suit your requirements





Echo® MS+ system with ZenoTOF 7600 system
or
Echo® MS+ system with ZenoTOF 8600 system

Best suited for:

High-resolution targeted screening:

- HTS – Small molecule
- HTS – Intact proteins
- Medicinal chemistry
- Compound quality assessment

Additional benefits:

- Reduce background interference with increased specificity and selectivity
- Ease of method development (MS method)

Echo® MS+ system with SCIEX Triple Quad 6500+ system

Best suited for:

Absolute sensitivity for quantitative work:

- HTS biochemical assays

Additional benefits:

- Simplicity of general system operation
- Higher level of quantitative consistency

Learn more about the power of the Echo® MS+ system to accelerate drug discovery

Learn more

References

1. Sun D, Gao W, Hu H, Zhou S. Why 90% of clinical drug development fails and how to improve it? Acta Pharmaceutica Sinica B. 2022;12(7): 3049-3062. doi:10.1016/j.apsb.2022.02.002

2. Lowe D. The latest on drug failure and approval rates. Science. science.org/content/blog-post/latest-drug-fail-ure-and-approval-rates. Published May 9 2019. Accessed October 28, 2022.

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